EPA Comments on High Desert Corridor PM Quantitative Hot-Spot Analysis

Overall Comments

In previous consultation on this project, EPA has reviewed an initial document in June of 2011 and has participated in multiple conference calls to discuss how to apply our guidance to this project. As the final quantitative analysis document, this document should pull the results of those consultations together so that it's clear how the guidance was applied. Note that some of our questions may have been discussed in those previous documents.

There should be more documentation of the EMFAC and AERMOD modeling. It should include enough information that someone else could repeat the modeling themselves, if so inclined. The document does not provide enough information to describe what was done.

Other than the selection of met data stations and receptor placement noted on p.19, there isn't much in the way of documenting decisions made through interagency consultation. The conformity regulation requires that an area's consultation process be used to determine models, methods, and assumptions to be used in a hot-spot analysis. The guidance emphasizes consultation and its documentation.

We have attached an example analysis done in Indiana to give you a sense of the type of detail that we would expect to include in a standard analysis. Note that where the data used for this project is different or required additional consultation (e.g. use of Lakes version of AERMOD), we would expect this analysis to include additional language explaining the decision and the consultation on that particular issue.

Specific Comments

Page 1 - First paragraph says, "The Guidance requires a hot-spot analysis…" Please note that the hot-spot requirement is found in the Transportation Conformity Regulation which is based on the Clean Air Act. The guidance doesn't set forth requirements. It does provide useful references and indicates where requirements are found.

Page 4 - Figure 2 has some information apparently conveyed by the colored lines, but there doesn't seem to be a key. The figure needs legend to label different alternatives.

Page 5-6, Project Alternatives: it wasn't completely clear which alternative was chosen for the analysis; maybe it would help if they were numbered.

Page 7 – Please include a map showing the boundaries of the nonattainment area with the project and the areas where each 'domain' covers the project. The first paragraph states, "Both San Bernardino and Los Angeles Counties are designated as attainment/unclassified of 24-hour and annual PM2.5 NAAQS." This is not correct; parts of both counties are nonattainment for both the 2006 PM2.5 NAAQS and 1997 PM2.5 NAAQS. Is the project located in the attainment portions of both counties? It would be helpful to see a map of the counties, nonattainment area boundaries, and the location of the project.

Page 8 & 9, Figures 3 & 4 – Could these figures be overlaid to a google street map to give the map context?

Page 10 - Location of Hot Spot and Emissions

- Could a map be included showing where the hot spot is located with local streets?
- Analysis Years – Please provide more information on why 2020 and 2040 chosen as analysis years.
- High Speed Rail Emissions: please provide more information on how PM10 emissions were calculated from the High Speed Rail using the Industrial Wind Erosion equations in AP-42. These calculations could be included in an appendix, however, the reader should not have to have access to the CALHSR study to understand the basis for the equations or how the methodology was applied for this facility.
- EMFAC-PL - please provide more details on how EMFAC_PL was used.

Page 11 – AERMOD – please identify which version of AERMOD was used, how the coordination with EPA Region was conducted and when this version was approved for use. Our understanding is that AERMOD has been updated since the model was approved and the new version of AERMOD should be considered for this project.

AERMOD emission sources – how were the traffic links characterized in AERMOD? (area, volume source?). Please include a figure showing some example emission sources. Also include data on modeling parameters such as surface roughness and release height.

Page 13 - Meteorological data / Air Quality Trend - Please show the location of the Victorville stations on a map and show any other local met or ambient data stations that were not considered. Please document how Region 9 concurred on the met data stations and time period (e.g. reference email, phone conversations, conference calls etc). Note that meteorological data is not frequently taken from an Air Quality monitoring site, but an airport. Please explain why they analysis is using this met data rather than ASOS data? For example, explain how the selected data compares to the data from KWJF, KPMD, or KVCV?

Page 15 - Future Trends – This discussion is based on information from 2009, which seems outdated at this point. Furthermore, future emissions are taken into account in the analysis because of the analysis years chosen in the emissions modeling. Therefore the "Future Trends" discussion doesn't seem critical to the analysis and seems like it could be eliminated.

Page 17- Background Concentration –The document indicates that a 1:6 day sampling monitor was used. Please explain if there was not a 1:3 or 1:1 sampler available that is typically required for a nonattainment area? What does that data look like and why was it excluded?

Page 18 - Traffic Data - Table 4 provides ranges of traffic volumes, truck percentages, and VMT. These ranges are very unclear to interpret. Travel activity is at the heart of the analysis, and this data should be provided for each link, similar to the detail in Attachment A-1.

Page 19 – Calculation of Design Values and Determine Conformity – Please include an isopleths showing the ambient concentrations.

Appendices – include the modeling protocol as an appendix. The data in Attachment B-1 and B-2 is so small that it's virtually unreadable, could it be reformatted and split over multiple pages?